

2. To: (Receiving Organization)  Distribution		3. From: (Originating Organization)  Environmental Remedial Actions		4. Related EDT No: N/A	
5. Proj/Prog/Dept/Div: ERA   ERE   ED		6. Cog/Proj Engr: F. W. Gustafson		7. Purchase Order No: NA	
8. Originator Remarks:  Approval   Release				9. Equip/Component No: NA	
				10. System/Bldg/Facility: NA	
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15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
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1	WHC-SD-EN-PD-007		0	North Slope Expedited Response Action Proposal	4	2		

16. KEY		
Impact Level (F) 1, 2, 3, or 4 see MRP 5.43 and EP-1.7	Reason for Transmittal (G) 1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist (Receipt Acknow. Required)	Disposition (H) & (I) 1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)										(G)	(H)
Reason	Disp	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp
	2	1	Cog./Proj. Eng F. W. Gustafson	3/24/92	H4-55						
	2	1	Cog./Proj. Eng. Mgr. W. L. Johnson	3/24/92	H4-55						
			QA								
			Safety								
			EDMC (2)		H4-22						
			IRA CLEARANCE		H4-17						
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18. Signature of EDT Originator F. W. Gustafson Date 3/24/92		19. Authorized Representative for Receiving Organization W. L. Johnson Date 3/24/92		20. Cognizant/Project Engineer's Manager W. L. Johnson Date 3/24/92		21. DOE APPROVAL (if required) Ltr No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments	
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EDT 133149

INFORMATION RELEASE REQUEST				References: WHC-CM-3-4	
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Purpose			New ID Number		
<input type="checkbox"/> Speech or Presentation <input type="checkbox"/> Full Paper                      (Check only one suffix) <input type="checkbox"/> Summary <input type="checkbox"/> Abstract <input type="checkbox"/> Visual Aid <input type="checkbox"/> Speakers Bureau <input type="checkbox"/> Poster Session <input type="checkbox"/> Videotape			<input type="checkbox"/> Reference <input checked="" type="checkbox"/> Technical Report <input type="checkbox"/> Thesis or Dissertation <input type="checkbox"/> Manual <input type="checkbox"/> Brochure/Flier <input type="checkbox"/> Software/Database <input type="checkbox"/> Controlled Database <input type="checkbox"/> Other		
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			Date Release Required		
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Title				Unclassified Category	Impact Level
NORTH SLOPE EXPEDITED RESPONSE ACTION PROPOSAL				UC-	4
COMPLETE FOR SPEECH OR PRESENTATION					
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N/A			n/a		
Date(s) of Conference or Meeting		City/State	Will proceedings be published?		
n/a			<input type="checkbox"/> Yes <input type="checkbox"/> No		
			Will material be handed out?		
			<input type="checkbox"/> Yes <input type="checkbox"/> No		
Title of Conference or Meeting					
CHECKLIST FOR SIGNATORIES					
Review Required per WHC-CM-3-4	Yes	No	Reviewer	Signature	Date
			Name (printed)		
Classification/Unclassified Controlled Nuclear Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Patent - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stan Beralin	<i>Stan Beralin</i>	3/17/92
Legal - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	B. D. Williamson	<i>B D Williamson</i>	3/18/92
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Publication Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D. E. Smith	<i>D E Smith</i>	3/24/92
Other Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
References Available to Intended Audience	<input checked="" type="checkbox"/>	<input type="checkbox"/>	F. W. Gustafson	<i>F W Gustafson</i>	3/11/92
Transmit to DOE-HQ/Office of Scientific and Technical Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Information conforms to all applicable requirements. The above information is certified to be correct.					
Author/Requestor (Printed/Signature)			INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP		
F. W. Gustafson <i>F W Gustafson</i> 3/11/92			Stamp is required before release. Release is contingent upon resolution of mandatory comments.  <div style="text-align: center;">  </div>		
Responsible Manager (Printed/Signature)					
W. L. Johnson <i>W L Johnson</i> 3/11/92					
Intended Audience					
<input type="checkbox"/> Internal <input type="checkbox"/> Sponsor <input checked="" type="checkbox"/> External			Date Received 3/13/92 <i>NS</i>		

SUPPORTING DOCUMENT		1. Total Pages <i>1924</i>
2. Title North Slope Expedited Response Action Proposal	3. Number <i>PD</i> WHC-SD-EN-PE-007	4. Rev No. 0
5. Key Words North Slope, Non-time Critical Expedited Response Action, Engineering Evaluation/Cost Analysis	6. Author Name: F. W. Gustafson <i>F. W. Gustafson</i> Signature Organization/Charge Code 81225/PK17A	
7. Abstract <i>W. Buckland 3/25/92</i> This document proposes a non-time critical Expedited Response Action be performed for both the physical and possibly environmental hazards present on Hanfords North Slope.		
8. <del>PURPOSE AND USE OF DOCUMENT</del> - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.  <del>PATENT STATUS</del> - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.  <del>DISCLAIMER</del> - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.		10. RELEASE STAMP <div style="border: 1px solid black; padding: 5px; text-align: center;"> OFFICIAL RELEASE  BY WHC  DATE APR 01 1992  <i>Star 21</i> </div>
9. Impact Level 4		

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## FIGURE

1	Location of the Hanford Site North Slope . . . . .	2
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## 1.0 INTRODUCTION

### 1.1 PURPOSE

This document provides information for a proposed expedited response action (ERA) at the Hanford Sites "North Slope". The North Slope is located on the northern and eastern borders of the Hanford Site across the Columbia River from the inactive production reactors located in the 100 Area of the Hanford Site. This information provides the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology) a general understanding of the proposed project.

If the ERA process is continued, a comprehensive ERA proposal will be prepared in accordance with the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) (Ecology et al. 1991). This will allow for public involvement and regulatory approval of the ERA prior to actual implementation of the proposed response action.

### 1.2 BACKGROUND

The Hanford Site includes approximately 190 mi<sup>2</sup> of land, located north of the Columbia River, commonly referred to as the "North Slope" (Figure 1). This land was not used for nuclear production activities, however, physical evidence remains of use prior to government control and from early Hanford military activities. As a result of these activities, the area has been included in the 100-IU-3 operable unit to be remediated in accordance with the Tri-Party Agreement (Ecology et al. 1991).

History of the North Slope area since settlement involves homesteading from the late 1800's until government control of the area in the early 1940's. After government acquisition of the land, the area was used for military defense of the Hanford Site. Defensive positions on the North Slope area consisted of seven anti-aircraft gun positions. These were replaced in the 1950's with three NIKE Missile positions. Since approximately 1960 the military has not had a permanent installation at the Hanford Site. However, the area has been used periodically for military training maneuvers.

The area remained unused and closed to public access until the mid 1970's. At that time the area was permitted by the U.S. Department of Energy (DOE) to the Washington State Department of Wildlife, and the U.S. Fish and Wildlife Service. As a result of the use permit to Washington Department of Wildlife, much of the land has been open to public access as a recreation area. The remainder of the North Slope is permitted to the U.S. Fish and Wildlife Service, and has limited public access. This area is used as a wildlife refuge.

This ERA proposal is being prepared at the request of the EPA and Ecology (Attachment 1).

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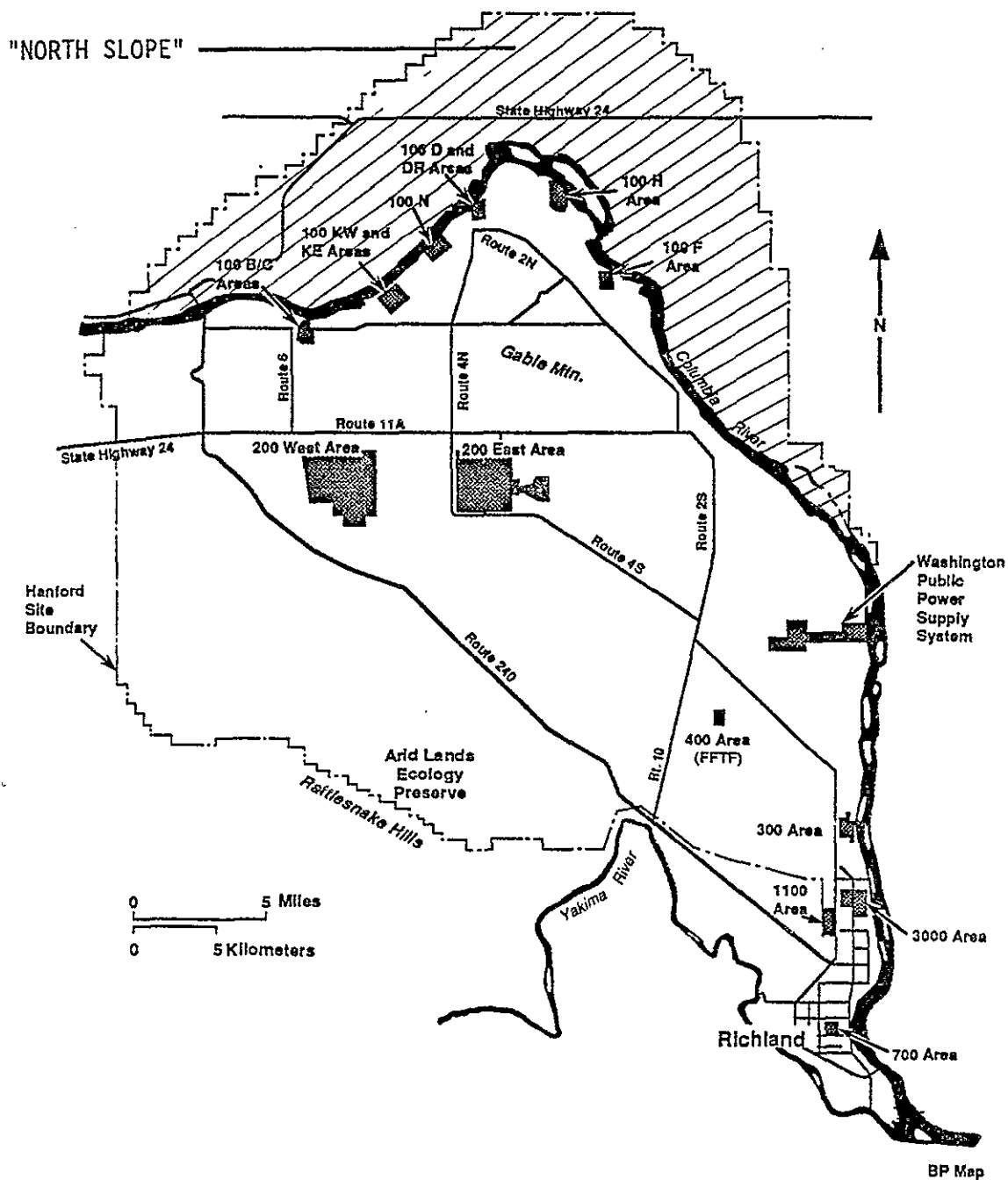


Figure 1. Location of the Hanford Site North Slope.

## 2.0 SITE DESCRIPTION

In the 1950's and early 1960's, the U.S. Army's role of onsite defense was diminished. As defense sites on the North Slope were abandoned, they were decommissioned in a manner considered appropriate by mutual agreement of the Atomic Energy Commission and U.S. Department of Defense. At that time, most buildings and structures were sold for salvage. Any remaining structures were demolished. The ammunition storage bunkers were left in place as it was determined that they had potential value. Consequently, these structures were locked or welded shut to prevent access.

In the mid 1970's, remaining structures on the North Slope were demolished. At this time, demolition included the ammunition storage bunkers and several wells. In both the original decommissioning, and the effort in the 1970's, structures were knocked down and pushed into an excavated trench at the building site or a short distance away. Several decommissioning trenches have been tentatively identified.

In 1990, a survey of the North Slope was completed (Roos 1990). The purpose was to inventory all potential hazards created by man on the North Slope. The inventory includes the following:

- Remains of 3 NIKE Missile sites
- Remains of 7 anti-aircraft sites
- Remains of 3 unidentified sites (probable military origin)
- Remains of several homestead sites
- 2,4-D burial site (well documented)
- Military type firing range (no known explosives)
- Miscellaneous sites of minor importance.

Hazards identified in the 1990 North Slope survey were categorized as physical or environmental. Physical hazards include tripping hazards such as open cisterns from homesteads and concrete foundations with exposed reinforcing steel from military sites. Environmental hazards identified in the 1990 survey include the 2,4-D disposal site as well as military landfills. The chemical 2,4-D is subject to biotic decomposition and it is expected that since emplacement approximately 25 years ago, the chemical has since degraded. Significant environmental hazards were not noted based on surface observation at the military sites. However, the potential for limited hazards such as small quantities of solvents could not be eliminated at the military landfills.

Previously unidentified planning maps of several of the NIKE related sites were recently located. These drawings identify several potential environmental concerns at the sites. These concerns include:

- underground storage tanks
- acid neutralization pits
- electrical transformers.

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### 3.0 BENEFIT OF THE ERA

Recent increase in public awareness of activities that influence the environment has drawn considerable attention to the Hanford Site. Many of the concerns expressed by the public regarding the Hanford Site address the issue of offsite exposure of contaminants. Since much of the North Slope area is open to the public, representing the potential for both physical injuries and environmental exposures, completion of the expedited response effort would reduce or eliminate these concerns. Implementing this expedited response prior to eventual remediation as required by the Tri-Party Agreement (Ecology et al. 1991), could eliminate the potential for personal injuries and exposure to occur in the interim. This ERA would also benefit all parties concerned (regulatory agencies, the public, and DOE) by demonstrating the DOE's commitment to a bias for action.

### 4.0 CONCEPT OF THE ERA

#### 4.1 GOAL OF THE ERA

The goal of the North Slope ERA is to eliminate the physical and environmental hazards from the area, leaving it safe for public use. Wastes removed from the area will be disposed in accordance with current Hanford and regulatory requirements. The overall result of the ERA is to conduct early remedial actions in an area accessible to the public prior to the occurrence of an injury or exposure to potentially hazardous wastes. In addition, these actions would likely lead to the issuance of a record of decision for the 100-IU-3 operable unit, thus "removing" 190 mi<sup>2</sup> of the Hanford Site from further cleanup actions mandated by the Tri-Party Agreement (Ecology et al. 1991).

#### 4.2 NET RESULT OF THE ERA

Success of the ERA will be measured in terms of the elimination of physical and environmental hazards identified during the focused site investigation activities.

#### 4.3 ERA IMPLEMENTATION

The process for implementing an ERA at the North Slope would follow the format outlined in the Tri-Party Agreement (Ecology et al. 1991). The ERA is considered to be non-time critical, such that a planning period of at least 6 months could occur prior to initiation of the activity. Implementation of a non-time critical ERA requires an engineering evaluation/cost assessment (EE/CA) be conducted and results submitted to the lead regulatory agency. The EE/CA will be contained in an ERA proposal that will provide the additional details necessary for implementing the alternative chosen by the EE/CA. The outline of the ERA implementation process is briefly described in the following sections.

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#### 4.3.1 ERA Project Plan

An ERA project plan will be prepared that outlines how the ERA will be implemented (Attachment 2 provides an outline for the project plan). The project plan will identify each of the alternatives to be considered by the EE/CA and the site evaluation tasks necessary to evaluate the alternatives. This plan is a secondary document as defined by the Tri-Party Agreement (Ecology et al. 1991).

#### 4.3.2 Site Evaluation

The primary purpose of the site evaluation is to identify each of the physical as well as any environmental hazards associated with the site. Information necessary for the demolition/stabilization of physical hazards will be obtained. Samples will be taken from areas believed to possibly contain hazardous wastes. In addition, a cone penetrometer survey will be conducted at the landfill areas as necessary for determining if they contain hazardous wastes. The information obtained by the site evaluation is essential for completing the EE/CA in which the restoration alternative is chosen. In addition, the data will be useful in assessing worker health and safety requirements while implementing the ERA. The results of all site evaluation activities will be documented in the ERA proposal.

#### 4.3.3 ERA Proposal and Action Memorandum

The ERA proposal includes the results of the EE/CA, which evaluates the various alternatives considered with recommendations based on that evaluation. The EE/CA provides refinement and specification of the alternatives, followed by a detailed analysis based on; 1) public health and welfare, and environmental impacts, 2) technical feasibility, 3) institutional considerations, and 4) cost.

Also included in the ERA proposal is a schedule for implementation of the recommended alternative as well as a project management/implementation plan. Attachment 3 provides an annotated outline suggested for the ERA proposal.

The ERA proposal will undergo a DOE, EPA, and Ecology review. The public will also be allowed to review the document. As specified in the Tri-Party Agreement (Ecology et al. 1991), the EPA will ultimately be responsible for issuing an ERA Action Memorandum, providing the direction to proceed with the activities proposed in the ERA proposal.

#### 4.3.4 Project Implementation

Following approval of the ERA proposal and issuance of the ERA Action Memorandum, the chosen alternative will be implemented.

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#### 4.3.5 Reporting

Upon completion of the ERA, a final report assessing and evaluating the ERA will be prepared for distribution.

#### 4.4 ERA SITE SELECTION WORKSHEET

A site selection worksheet has been completed for the North Slope ERA and is provided in Attachment 4.

#### 4.5 COST AND SCHEDULE SUMMARY

A preliminary cost estimate and schedule for implementing the North Slope ERA is provided in Attachment 5. It should be noted that the cost and schedule estimates reflect the assumption of no radiological and minimal hazardous wastes. Final cost estimates, based on the results of the site evaluation tasks, will be included in the ERA proposal.

#### 5.0 REFERENCES

- Ecology, EPA, and DOE, 1991, *Hanford Federal Facility Agreement and Consent Order*, Washington Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington.
- Roos, Richard C., 1990, *North Slope Investigation Report*, WHC-EP-0359, Westinghouse Hanford Company, Richland Washington.

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**ATTACHMENT 1  
REQUEST FOR PROPOSALS**

9313091.1322  
2761-1606136



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Mail Stop PV-11 • Olympia, Washington 98504-8711 • (206) 459-6000

March 4, 1992

Mr. Steven H. Wisness  
Hanford Project Manager  
U.S. Department of Energy  
P.O. Box, 550 A5-19  
Richland, WA 99352

Re: Expedited Responses Action Planning Proposals and Implementation

Dear Mr. Wisness:

On January 22, 1992, a meeting was held to discuss the selection of new Expedited Response Actions (ERA). The Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) assumed the task of identifying candidate sites for planning proposal preparation, and identification of lead regulatory agency.

The primary reasons to perform ERAs are to minimize or eliminate the potential for release of hazardous substances and/or radionuclides in the environment and to initiate actions consistent with anticipated remedy selections. The final remedy selection would be made after completion of a Remedial Investigation/Feasibility Study (RI/FS) or a RCRA Facility Investigation/Corrective Measures Study (RFI/CMS).

On December 12, 1991, a meeting was held to discuss selection of new ERAs. In this meeting, the U.S. Department of Energy (DOE) and Westinghouse Hanford Company (WHC) provided EPA and Ecology with a list of twenty-two (22) candidate sites. In addition, DOE and WHC were seeking approval to proceed with EE/CA preparation for the 300 Area Burial Grounds. Based on this meeting and a continuing dialogue between Ecology, EPA, DOE, and WHC, four (4) sites from the candidate list have been selected for planning proposal preparation. In addition, we request DOE submit planning proposals for two additional sites that were drafted previously for DOE, but as yet have not been submitted to Ecology and EPA.

Ecology and EPA prefer to delay initiation of an ERA on the 300 Area Burial Grounds. With the use of test pits in both the liquid disposal sites and the burial grounds, it appears the schedule for completion of RI/FS activities in 300-FF-1 may be accelerated. In addition, treatability tests planned for this year may identify appropriate means for remediating contaminated sediments from the liquid disposal sites as well as the burial grounds. Early completion of these investigations could result in a final Record of Decision for the 300-FF-1 Operable Unit earlier than projected. Ecology and EPA prefer

Mr. Steve H. Wisness  
March 4, 1992  
Page 2

this course of action because it would potentially eliminate the need to handle waste from the burial grounds twice (once as part of the ERA and again as part of the final remedy).

Ecology and EPA have selected the following four sites for planning proposal preparations:

Sodium Dichromate Barrel Disposal Landfill in 100-IU-4 Operable Unit

The sodium dichromate barrel disposal site in the 100-IU-4 Operable Unit was selected in part due because this is the only facility located within the 100-IU-4 Operable Unit. Also, early remedial action at this operable unit may abate the potential of more extensive environmental degradation. Any ground water contamination from the sodium dichromate barrel site would be addressed as part of the 100-HR-3 Operable Unit. Removal of drums and contaminated sediments from this site may completely remediate the 100-IU-4 Operable Unit or may result in a no further action record of decision. This ERA would be designated as an Ecology lead site due to its location within the 100-HR-3 ground water operable unit for which Ecology is also the lead regulatory agency. An ERA at the sodium dichromate barrel disposal site should not require extensive planning or characterization prior to initiation and therefore field work should begin in fiscal year 1992.

U.S. Bureau of Reclamation 2,4-D Burial Site in 100-IU-3 Operable Unit

The U.S. Bureau of Reclamation 2,4-D burial site in the 100-IU-3 Operable Unit was also selected in part because it is the only documented hazardous waste disposal area located north of the Columbia River on the Hanford Site. In addition, this site is one of the few waste sites where DOE does not control access. Removal of drums and contaminated sediments from this site could eliminate the primary source of hazardous waste from this part of the Hanford Site and enhance public safety. The north slope area of the Hanford Site has been of particular interest to Ecology due to public access and the existing lease agreement between DOE and the Washington State Department of Fish and Wildlife. Ecology would be designated lead regulatory agency for both this ERA and the 100-IU-3 Operable Unit.

White Bluffs Pickling Acid Crib in 100-IU-5 Operable Unit

The White Bluffs pickling acid crib in the 100-IU-5 Operable Unit represents a significant source of acidic metal waste solution. This waste was generated from the final cleaning of reactor cooling pipes prior to installation in Hanford's eight single-pass reactors. These liquid disposal sites are located approximately one mile west of the 100-F Area near the old White Bluffs town site. Again, this site represents the primary source of contamination within the 100-IU-5 Operable Unit and a removal action at this facility will likely limit

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Mr. Steve H. Wiggins  
March 4, 1992  
Page 3

the need for and extensive investigation through an RI/FS. Since little is known about the extent of contamination associated with the White Bluffs pickling acid crib, some degree of characterization will likely be required as part of an ERA at this site. Due to its location upgradient of 100-F Area, EPA would be designated as lead regulatory agency for both this ERA and the 100-IU-5 Operable Unit.


100-IU-1 River Rail Wash Pit and 600 Area Army Munitions Burial Site

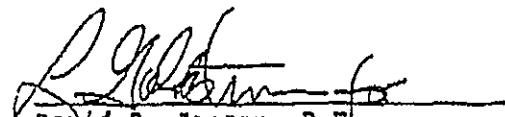
The 100-IU-1 operable unit contains two units. The riverland railroad car wash pit was decontaminated in 1963, and subsequently released from radiation zone status. Site records indicate that all items were removed from the munitions burial site in 1986. These sites are both located west of Highway 240 and lack the access controls present at nearly all other past practice sites at Hanford. EPA will be lead agency for this ERA and the 100-IU-1 Operable Unit. This presents the potential opportunity to reach a decision to take no further action at an operable unit after performing a confirmatory investigation. We expect that the entire investigation could be done as part of the ERA. If that is the case, the ERA would be followed by administrative steps to reach a final ROD.

Planning proposals for two additional sites are already drafted, but not released. These are for the 100 Area river outfall pipes and the 618-11 burial ground. These planning proposals should be transmitted to Ecology and EPA without delay. The regulatory lead agency will be identified for these proposals in the notice to proceed with EE/CA preparation.

Should you have any questions about the selection of candidate sites for planning proposal preparation or implementation, please contact either Steve Cross of Ecology (206) 459-6675 or Doug Sherwood of EPA (509) 376-9529.

Sincerely,

  
Paul T. Day  
Hanford Project Manager  
EPA Region 10

  
David B. Jansen, P.E.  
Hanford Project Manager  
Washington State  
Department of Ecology

cc: T. Veneziano, WHC

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ATTACHMENT 2  
PROJECT PLAN OUTLINE

9231 1603136

## ERA Project Plan

### 1.0 INTRODUCTION

- 1.1 Purpose
- 1.2 Background
- 1.3 Organization

### 2.0 SITE CHARACTERISTICS

- 2.1 Facilities/Structures
- 2.2 Geology/Soil
- 2.3 Hydrogeology

### 3.0 PRELIMINARY IDENTIFICATION AND SCREENING OF ALTERNATIVES

### 4.0 SITE EVALUATION TASKS

### 5.0 ERA PROPOSAL TASKS

### 6.0 ERA DESIGN AND IMPLEMENTATION TASKS

### 7.0 PROJECT SCHEDULE

### 8.0 REFERENCES

### ATTACHMENTS

- |              |                            |
|--------------|----------------------------|
| Attachment 1 | Sampling and analysis plan |
| Attachment 2 | Health and safety plan     |
| Attachment 3 | Project management plan    |

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ATTACHMENT 3  
ANNOTATED ERA PROPOSAL OUTLINE

9261-1506166

## 1.0 INTRODUCTION

The introduction defines the purpose and scope of the ERA proposal. The discussion includes the various reasons and requirements for performing the ERA. The relationship between the ERA and the ongoing remedial investigation/feasibility study activities will also be described.

## 2.0 SITE DESCRIPTION

This section provides a brief description of the site being considered for an ERA. A summary of the information that is pertinent to the selection of the preferred alternative is included.

## 3.0 SITE EVALUATION ACTIVITIES

This section describes the activities conducted for characterization of the site. Information gathered during those activities are also included, evaluated, and summarized.

## 4.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

This section identifies applicable or relevant and appropriate requirements to be considered in the engineering evaluation/cost analysis.

## 5.0 IDENTIFICATION OF RESPONSE TECHNOLOGIES

Response technologies that could achieve the objectives of the ERA are evaluated. A summary of the evaluation process is provided.

## 6.0 ANALYSIS OF RESPONSE ACTION ALTERNATIVES

Various response action alternatives are assembled and evaluated. Those alternative warranting further evaluation are summarized.

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## 7.0 ENGINEERING EVALUATION/COST ANALYSIS

Each criterion to be used to evaluate the ERA alternatives summarized in Section 6.0 is identified in this section. The method of scoring the alternatives against these criteria is also explained.

## 8.0 IMPLEMENTATION OF PREFERRED ERA ALTERNATIVE

This section provides a discussion detailing the implementation of the preferred ERA alternative chosen in Section 7.0. All procedures that will be used or that need development will be identified. All permits, such as excavation permits and Hazardous Waste Operators Permits, will also be mentioned. Health and safety, waste management, waste minimization, and environmental monitoring will be discussed.

## 9.0 PROJECT MANAGEMENT PLAN

Each of the organizations that will participate in the implementation of the ERA and their roles is identified in this section. A flow chart showing the management structure, a detailed schedule for implementation, and cost estimates for implementing the ERA activity are provided.

03/16/95



Site Selection Worksheet

Project Name: North Slope Military Installations and Waste Sites

Project Description: The scope of this project is to remove physical and environmental hazards resulting from past military and homesteading activities on the Hanford Site's "North Slope".

ERA Category: Time Critical ☐ Non-Time Critical ☒

Evaluation Checklist

Time Critical ERAs:

Actual Exposure/Release Yes ☐ No ☒

Imminent Exposure/Release Yes ☐ No ☒

Rationale:

Non-Time Critical ERAs:

1. Potential Exposure: Yes ☒ No ☐

Rationale: Approximately two-thirds of the North Slope is currently available for public access. As a result, a significant potential exists for the public to become injured and/or exposed to hazardous substances left from past military and homesteading activities which occurred in the areas.

2. Potential Increased Degradation: Yes ☒ No ☐

Rationale: Since the specific contents of the landfills associated with area are not known, the potential exists for the migration of hazardous substances from these facilities. There are also several acid disposal pits and a structure which appears to be a french drain which could be potential sources from which hazardous substances may migrate.

3. Implementability: Yes ☒ No ☐

Rationale: Implementation of this project is highly feasible given adequate funding.

4. Short-Term Effectiveness: Yes ☒ No ☐

Rationale: Since implementation of this project would result in the removal of physical hazards and the treatment and/or the reduction in any environmental threats, the project would be effective in the short-term.

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5. Reduction of Toxicity, Volume, Migration: Yes ☒ No ☐

Rationale: Implementation of this project would minimize or eliminate any toxicological and migratory hazards that may be present.

6. Cost Effectiveness: Yes ☒ No ☐

Rationale: Implementation of this project could occur at a relatively minimal cost. It would be more advantageous to investigate and remove both the physical and possible environmental hazards present at this time as opposed to allowing for the opportunity for a member of the public to become injured and/or exposed resulting in potentially significant financial and medical restitution costs.

7. Long-Term Effectiveness: Yes ☒ No ☐

Rationale: Implementation of this project would result in permanent elimination of the physical hazards that presently exist at the site. The threats posed by environmental hazards, if discovered, would also be removed and/or impacts minimized.

8. Consistent with Final Remedy: Yes ☒ No ☐

Rationale: Removal of the physical and environmental hazards is consistent with final remediation of Hanford "North Slope" and does not prohibit any future action. Actions taken are likely to be the final remedial efforts needed in the area.

9. Compliance with ARARs: Yes ☒ No ☐

Rationale: Since the project would result in removal of physical and environmental threats, it would strive to be consistent with final ARARs applicable for restoration of the area.

10. Information for RI/FS or Remedial Design: Yes ☒ No ☐

Rationale: If significant environmental hazards are encountered, the data obtained from implementing the ERA would provide useful information to future restoration/remediation projects both on and off of the Hanford Reservation.

11. Demonstrate Technologies: Yes ☒ No ☐

Rationale: A Cone Penetrometer survey is proposed for use in evaluating the contents of the landfills located on the North Slope. If use of the system is successful at these sites, future use at significantly more hazardous landfills located at Hanford may result in safer and more cost effective environmental investigations.

12. Community Acceptance: Yes ☒ No ☐

Rationale: Positive acceptance of this project by the community is anticipated due to the accessibility of the area to the public.

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ATTACHMENT 5  
NORTH SLOPE EXPEDITED RESPONSE ACTION  
SCHEDULE AND COST ESTIMATE

The following cost and schedule information are provided for conducting decommissioning/environmental cleanup activities associated with military installations and homestead sites on the North Slope of the Hanford Site. Limited knowledge of the sites is available and as a result, many of the proposed activities are of an investigative nature needed to support the decisions required for selecting the appropriate response actions.

The cost estimate and schedule should be considered rough order-of-magnitude. Assumptions have been made based on available data as what remedial actions are likely to result from these investigations. Additional data about site conditions and health and safety requirements are needed to produce more definitive estimates. A more conclusive cost estimate will be provided in the ERA proposal for the selected remediation alternative(s).

REF ID: A66186

# NORTH SLOPE ERA PRELIMINARY COST AND SCHEDULE ESTIMATE

A list of the 30 areas identified as having potential safety and/ or environmental concerns during an investigation of the north slope area in 1989 and 90 are provided. The bulk of the information used in developing these costs was obtained from the "North Slope Investigation Report" (Roos, 1990).

Site Name	Hazard
1) Construction Dump	Exposed Construction Material
2) "Battery A" NIKE Site	Landfill, Underground Structure, Acid Pit and potential underground storage tanks
3) "Battery B" NIKE Site	Landfill, Underground Structure, Acid Pit and potential underground storage tanks
4) Radar Tower Site	Construction Debris
5) "Battery C" NIKE Site	Landfill, Underground Structure, Acid Pit and potential underground storage tanks
6) Anti-Aircraft Gunsite	Landfill
7) Anti-Aircraft Gunsite	Landfill
8) Anti-Aircraft Gunsite	Shallow Pit and landfill
9) Anti-Aircraft Gunsite	Landfill
10) Anti-Aircraft Gunsite deep)	3 Buried Wooden Boxes (4 ft x 3 ft x 2 ft
11) Anti-Aircraft Gunsite	Concrete Ramp
12) Radar Tower Site	Underground Rooms
13) Home Site Cistern	5-ft dia x 8 ft deep
14) Clay Pit Cistern	4-ft dia x ? deep
15) Overlook Cistern	10-ft dia x 14 ft deep
16) Power Line Cistern	4-ft dia x 6 ft deep
17) Wagon Road Cistern	8-ft dia x 8 ft deep
18) Wasteway Cistern	8-ft dia x 3 ft deep
19) Asbestos Pipe Site	Pieces of Pipe
20) Washed out Road	-----

Assumed activities to be taken at these sites include performing preliminary sampling and analysis at locations that are suspected of being disposal sites of hazardous materials. These sites include the pits associated with the NIKE sites that may have been used to dispose solvent and other chemicals used in the maintenance of the equipment as well as a motor pool.

A cone penetrometer is proposed for use in evaluating the landfills. At this time, no hazardous wastes are anticipated to be encountered in the landfills and it is therefore assumed that no additional remedial effort will be needed other than cleanup of trash located on the surface of these waste sites.

The 2,4-D burial ground will also be evaluated utilizing the cone penetrometer. It is anticipated that the 2,4-D disposed at this site has degraded to an acceptable level based on information provided by Pacific Northwest Laboratory. This information will be confirmed with the data obtained from performing the cone penetrometer.



It is also assumed that no radiological contaminants are located on the North Slope and radiological controls/monitoring will not be necessary.

The cost breakdown is as follows:

#### PROJECT MANAGEMENT COSTS:

Project Manager	0.1 FTE/yr @ 2 yr	20,000
Project Engineer	1.0 FTE/yr @ 2 yr	200,000
Clerk/Typist	0.1 FTE/yr @ 2 yr	20,000
Quality Assurance	0.125 FTE/yr @ 2 yr	25,000
Health/Safety	0.125 FTE/yr @ 2 yr	25,000
Facility Safety	0.5 FTE/yr @ 1 yr	50,000
Permits (ie NEPA)	0.125 FTE/yr @ 0.5 re	6,250
Community Relations	0.125 FTE/yr @ 2 yr	25,000

#### PRELIMINARY INVESTIGATION

Sampling and Analysis	150,000
Cone Penetrometer (21 cones)	45,000

ERA PROPOSAL DEVELOPMENT	58,000
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#### PROJECT IMPLEMENTATION

Mobilization	5,000
Demolition & rubble cleanup/disposal	30,000
Backfill holes and depressions	25,000
Replace/Install signs & fencing	25,000
Hazardous Waste Disposal	20,000

Sub total	\$729,250
Contingency (25%)	218,775

TOTAL \$948,025

(Note that these costs are rough order of magnitude and are subject to vary with the scope of work to be performed.)

The following schedule is based on tasks listed in the previous cost estimate. Revised schedules will be provided in the ERA project plan with emphasis on investigation activities and in the ERA proposal based on the selected remediation alternative.

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## EXPEDITED RESPONSE ACTION - NORTH SLOPE

